



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0977; Project Identifier AD-2022-00419-E; Amendment 39-22205; AD 2022-21-06]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain General Electric Company (GE) CF34-8C and CF34-8E model turbofan engines. This AD was prompted by a report of a crack found on the low-pressure turbine (LPT) stage 5 disk at the forward arm area. This AD requires the removal of the affected LPT stage 5 disk and replacement with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0977; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Scott Stevenson, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7132; email: Scott.M.Stevenson@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain GE CF34-8C1, CF34-8C5, CF34-8C5A1, CF34-8C5A2, CF34-8C5A3, CF34-8C5B1, CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, and CF34-8E6A1 model turbofan engines. The NPRM published in the *Federal Register* on August 1, 2022 (87 FR 46906). The NPRM was prompted by a report of a crack found on the LPT stage 5 disk at the forward arm area. In the NPRM, the FAA proposed to require the removal of the affected LPT stage 5 disk and replacement with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received one comment from Air Line Pilots Association, International (ALPA). ALPA supported the NPRM without change.

Conclusion

The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

Related Service Information

The FAA reviewed GE CF34-8C Service Bulletin (SB) 72-0352 R00, dated September 20, 2021, and GE CF34-8E SB 72-0240 R00, dated September 20, 2021. These SBs, differentiated by engine model, describe procedures for removing and replacing the affected LPT stage 5 disk, part number (P/N) 4117T14P02, with a new LPT stage 5 disk, P/N 4117T14P03.

Costs of Compliance

The FAA estimates that this AD affects 112 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Remove and replace the LPT stage 5 disk	2 work-hours x \$85 per hour = \$170	\$30,500 (pro-rated)	\$30,670	\$3,435,040

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-21-06 General Electric Company: Amendment 39-22205; Docket No. FAA-2022-0977; Project Identifier AD-2022-00419-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to General Electric Company CF34-8C1, CF34-8C5, CF34-8C5A1, CF34-8C5A2, CF34-8C5A3, CF34-8C5B1, CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, and CF34-8E6A1 model turbofan engines with an installed low-pressure turbine (LPT) stage 5 disk, part number (P/N) 4117T14P02.

(d) Subject

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by a report of a crack found on the LPT stage 5 disk at the forward arm area. The FAA is issuing this AD to prevent failure of the LPT stage 5 disk. The unsafe condition, if not addressed, could result in loss of engine thrust control and reduced control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

During the next piece-part exposure after the affected LPT stage 5 disk accumulates 8,000 cycles since new (CSN), remove the affected LPT stage 5 disk and replace with a part eligible for installation.

(h) Installation Prohibition

Do not install an affected LPT stage 5 disk with 8,000 CSN or more into the LPT module of the engine.

(i) Definitions

(1) For the purpose of this AD, a “part eligible for installation” is an LPT stage 5 disk, P/N 4117T14P03, or later approved P/N.

(2) For the purpose of this AD, “piece-part exposure” is when the LPT module is separated from the engine and the LPT stage 5 blades are removed from the LPT stage 5 disk.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD and email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

For more information about this AD, contact Scott Stevenson, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7132; email: Scott.M.Stevenson@faa.gov.

(l) Material Incorporated by Reference

None.

Issued on October 3, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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